

## 5K. Port and bunkering infrastructure

### Summary of chapter findings and outcomes

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- 01 • **Overview of required port and bunkering infrastructure** to meet the specific corridor's demand for alternative fuel (location, capacity, technologies)
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- 02 • **Technical feasibility** of alternative fuel bunkering, storage, and logistics connected to the green corridor ports, including:
- Potential for **conversion/retrofitting** of infrastructure for alternative fuels
  - Logistics solution for transporting alternative fuel to storage sites
  - **Potential availability of land** for new infrastructure (if required)
  - **Operational capacity** based on fuel type (e.g., required skills to handle fuel)
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- 03 • **Regulatory feasibility**, including the ability to **store/bunker** fuel at green corridor ports; **health and safety guidelines** for storage, bunkering, logistics; and fuel handling **process definitions**, as well as measures to ensure a **just and equitable** development of the alternative fuel along the entire storage/bunkering process.
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- 04 • **Cost assessment** for conversion/retrofitting and development of the infrastructure required for the specific green corridor, including:
- Resulting CapEx requirements
  - OpEx costs (for storage tanks, ports, new bunkering barges, etc.)
  - Opportunities to share bunkering and storage infrastructure based on demand from vessels outside the corridor
  - Financing capacity and potential
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- 05 • **Just & Equitable:**
- An analysis from a J&E perspective will provide insights on how workers, communities and ecosystems might be affected by the development of fuel storage and bunkering facilities. There might be socio-economic opportunities and risks. It is important that work is done to maximize the opportunities and minimize the risks.



# Workstream gap analysis – Port and bunkering infrastructure

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S		
1						Project Vision										Header Definitions				
2																<div>Elements [see workstream-specific spreadsheets for a list of elements]</div>				
3																<div>Description [describe element]</div>				
4						Workstream Scope / Targets										<div>Main Gaps [describe gap]</div>				
5																<div>Solution [describe solution to close gap, i.e. demonstrators, SOPs, studies, etc.]</div>				
6																<div>Time [timeframe to close gap]</div>				
7																<div>Cost to close gap [demonstrators, pilots, etc.] [\$M]</div>				
8																<div>Investments [Capex/Opex to reach project scope]</div>				
9	Workstream	Topic	Feasibility Assessment	Elements	Description	Main Gaps	Solution/ Mitigating Actions	Timing	Cost to Close Gap	Investments	Dependencies/ Commitments	Gap Factor	Criticalit y							
10			Technical  Specify main gaps to target state (scope) and mitigating actions. What are the key technical challenges and mitigating actions? How are they expected to evolve over time? How does this align with the target state time line?																	
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15			Regulatory  Specify main gaps to target state (scope) and mitigating actions. What are the key regulatory challenges and mitigating actions? How are they expected to evolve over time?																	
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Dependencies [describe pre-requisites and timing/sequence for solution]

Gap factor [rate the gap based on the means required to close gap] [traffic light]

Criticality [to ensure operation] [traffic light]

Traffic Light Table Definition

Color	Gap Factor/Severity (How large is the gap?)	Criticality/Impact (How high is the impact of this gap?)
Low	Low	Low
Medium	Medium	Medium
High	High	High

Feasibility Definitions (Gaps related to ...)

Technical

The technical readiness (development, adaptation, availability)  
Operational readiness over time

Regulatory

The regulation regarding the use, handling and onboard storage of the alternative  
i.e., safety and operational risk guidelines, methodologies and procedures for using

Throughout the Feasibility assessment, fill the table with insights on **technical and regulatory feasibility**<sup>4</sup> – specifically, use this table to highlight **gaps and ways to close them**

Legend and definitions



4. Cost assessment is covered under the residual cost gap analysis methodology